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**CHANGES IN THE NC HISPANIC/LATINO
POPULATION, 1990 TO 1994
-- with implications for public health**

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by L.M. Lopez

ABSTRACT

Health care planners and providers need current population estimates to decide the best use of their financial and human resources. This report uses available data to examine the growth of the Hispanic/Latino population from 1990 to 1994. The data included births, public school students, migrant farm workers, and Community Diagnoses.

Changes in Hispanic births were calculated for the counties with at least 20 births in both 1990 and 1994. From 1990 to 1994, the number of Hispanic births increased 59%, from 2,560 (2.5% of total births) to 4,163 (4.1% of total births). Twenty counties had increases in Hispanic births of 50% or more, with nine having had increases of more than 100%.

Data were available for students in NC public schools, K-12. The counties included were those with 50 or more Hispanic/Latino students in both 1990 and 1994. Nearly all of those counties had increases in Hispanic students of over 50%, and 16 had increases greater than 150%. Statewide, Hispanic students increased 107% since the census -- from 8,530 to 17,699. However, they still represented only 1.5% of total students.

Estimates of migrant and seasonal farm workers include a category of "Spanish" migrant farm workers. The statewide change was 20%.

The NC Community Diagnosis is a local assessment of county problems and priorities, done by the local health departments. Data were examined for the 49 counties with more than 600 Hispanics/Latinos. Sixteen local health departments mentioned interpreter services or migrant health as legislative priorities. The linguistic and cultural needs of this population were mentioned as major concerns by several local health departments.

While this report does not provide definitive numbers for the Hispanic/Latino population, it does present a picture of the changes over the past few years. This information should be useful in planning services that are culturally based and linguistically appropriate for this population.

CHANGES IN THE NC HISPANIC/LATINO POPULATION, 1990 TO 1994
— with implications for public health

by J.M. Lopez

ABSTRACT

The purpose of this report is to provide a general overview of the changes in the Hispanic/Latino population in North Carolina from 1990 to 1994. The report uses available data to estimate the growth of the Hispanic/Latino population from 1990 to 1994. The data included birth, public school enrollment, and labor force participation rates. The data were obtained from the U.S. Census Bureau and the North Carolina Department of Health and Human Services.

Changes in Hispanic/Latino birth rates were calculated for the counties with at least 20 births in both 1990 and 1994. From 1990 to 1994, the number of Hispanic/Latino births increased 29% from 2,560 to 3,300. The average birth rate for Hispanic/Latino women was 18.7 (18.7 per 1,000 live births). Twenty counties had increases in birth rates of 25% or more, with some having had increases of more than 100%.

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Estimates of migrant and seasonal farm workers include a category of "Spanish" migrant farm workers. The statewide change was 30%.

The NC Department of Health and Human Services is a local government of county, city, and town, and is the largest health department in the state. Data were examined for the 47 counties with more than 600 Hispanic/Latino residents. The largest health department in the state is the North Carolina Department of Health and Human Services. The largest and smallest health departments in the state are the North Carolina Department of Health and Human Services and the North Carolina Department of Health and Human Services.

While this report does not provide definitive numbers for the Hispanic/Latino population, it does provide a general overview of the changes in the population over the past few years. This information should be used in planning services that are culturally based and linguistically appropriate for the population.

CHANGES IN THE NC HISPANIC/LATINO POPULATION, 1990 TO 1994

-- with implications for public health

Health care planners and providers need current population estimates to decide the best use of their financial and human resources. These estimates are essential for adapting or expanding services to meet specific health needs, and for developing programs that are based in the culture and language of a population. However, good estimates are hard to find for the Hispanic/Latino population in North Carolina. The 1990 census may have significantly undercounted this population. More importantly, the census is five years old, and there have been large increases in this population in many local areas.

This report is an attempt to provide some evidence of the growth in the North Carolina Hispanic/Latino population. It is difficult to make population projections for groups with relatively small numbers, such as the Hispanic/Latino population. This report does not provide projections or comprehensive estimates. Rather, it describes what has happened since the census, and includes additional data to more accurately describe the population changes. Even though the existing data are limited in many ways, some of the data may be helpful for program planning and resource allocation.

Terminology

The terms "Hispanic" and "Latino" are often used interchangeably. These words refer to people of Hispanic origin, who are generally Spanish-speaking and often identify culturally with Latin America. Both terms are used by people of Spanish descent. Hispanic is a term coined by the government, but it is also commonly used by many people of Spanish origin. The term Latino is increasing in usage; it reflects cultural origins in Latin America, regardless of ethnic heritage. In this report, Hispanic is used predominately since the data were coded using that term.

While some terminology is needed to discuss the group as a whole, it is important to recognize the variation within groups of people. Hispanics/Latinos may include: Mexican Americans, Puerto Ricans, Cuban Americans; people from the Dominican Republic, Mexico, Central or South America; and people with other Spanish origins. Language and cultural differences may arise due to age, education, and socioeconomic and immigration status (documented or not). Other factors include length of time in the United States, extent of adaptation to the "Anglo" culture, and urban versus rural residence.

Background

In 1994, the Office of Minority Health and the Linguistic Committee estimated the number of Hispanics/Latinos to determine needs for interpreter services (Lopez, 1994). The focus was on those who speak limited English. This was done with the 1990 census counts, 1993 estimates of migrant farm workers, and a factor for dependents of migrant workers. Using

that formula, there were approximately 106,400 to 150,800 Hispanics/Latinos in North Carolina at any given time, even without counting the growth in the resident population.

Census counts alone are often used for planning. However, the 1990 Census only counted 76,726 Hispanic people in North Carolina. This represented 1.2% of the total population. However, there may have been an undercount of Hispanics in 1990 (Surles, 1993a), as well as of other groups (Feinlieb, 1993). In 1980, the undercounted were mostly minority groups, recent immigrants, the homeless, and the very poor (Schick & Schick, 1991). In addition, the Hispanic population has been growing at several times the rate of other groups. In the United States and North Carolina, there was a 35% increase from 1980 to 1990. There is a projected increase of 27% for the United States between 1990 and 2000.

Furthermore, the census figures do not include the population of migrant farm workers. The figures from the Linguistic Committee (Lopez, 1994) included the 1993 estimate of 29,650 migrant farm workers in North Carolina who were classified as "Spanish" by the Employment Security Commission (ESC, 1994). When the number of Hispanic migrant workers was multiplied by 2.5 to account for dependents, the estimate for migrants was 74,125. The factor of 2.5 is used by the Migrant Health Program of the Department of Environment, Health, and Natural Resources (DEHNR). A more conservative factor of 1.8, used by some federal agencies, would yield an estimate of 53,370.

These figures barely begin to describe the present numbers of Latinos in this state. Several anecdotes help illustrate this point. According to the Census, Chatham County has 564 Hispanics. Adding the migrant workers and their dependents, the total would be 814. However, 60-75% of the employees in the major industries (600-1000 poultry workers) were Hispanic. At the Health Department in Siler City, 49% of 79 new prenatal patients were Hispanic (Lail, 1995). The Health Department is the major source of prenatal care in the county. Other evidence of the growth in Siler City includes a Hispanic church, two Latino restaurants, and three Latino grocery stores.

In Montgomery County, the Health Department estimated there were two to three times the number of Hispanics (Jenkins, 1994) than would be evident using the formula above (Lopez, 1994). Furthermore, Hoke County had an estimate of fewer than 300 using that formula. However, the Health Department, which already had a bilingual health care provider, recently added a full-time Spanish interpreter. Apparently, they observed a need for services that others had not yet documented. Additional data are needed to capture the growth of this population for planning purposes.

METHODS

The US Census was last taken in 1990. Appendix A provides the census data for Hispanics and the total population. As noted earlier, there have been many reports about the increase in this population since then. These have come from local health departments and community

agencies. This report focuses on the data from 1990 to 1994. The interest is in estimating the growth since the 1990 census. The most recent data were available for 1994.

Overall population changes are a function of births, deaths, and migration (both in- and out-migrations). This is generally a young population, with median age of 24.6 years, versus 34.7 years in the nonHispanic population (Surles, 1993b). Many unmarried Latino men come to this state to work. As with other immigrant populations, they may later bring their partners and/or families. However, births only tell us about part of the population.

Changes in student demographics suggest changes in the general population. They may reflect movement into and out of the state. Overall mortality rates may be lower due to the relative youth of this population. Surles (1993a) has suggested that death rates in this population may be underestimated, even given the likely census undercounts. The recording of race and Hispanic ethnicity at death is often dependent on the funeral director's judgment.

Births

Births were used in this report rather than birth rates. While rates are used more commonly and are helpful for comparing groups, they may not be stable in this population. If the census undercounted Hispanics, using it as the denominator could lead to overestimating birth rates (Surles, 1993a). In 1990, there were more births to Hispanic women than there were Hispanic women counted in the census. Consequently, any calculation of rate would be meaningless. The census apparently does not capture the size of this population.

The SCHES provided the birth data used in this report. They included county and state births for Hispanics and nonHispanics. Hispanic ethnicity was first included on the birth certificate 1988, and 1994 was the most recent year for which birth data were available.

For this report, Hispanic births were those who had either a Hispanic mother or father. Current federal practice uses only the mother's race or Hispanic ethnicity to identify the race or Hispanic ethnicity of the child (Surles, 1993b). There were differences in the numbers of births for whom mothers (1.2%) or fathers (1.4%) were Hispanic (Table 1a). However, 1.9% of all births in 1988 were Hispanic if either mother or father was included (Table 1b). If only the mothers were included, that 1.2% would represent only 62% of the potential Hispanic births. In NC, many single males come to the state to seek work first. Those who have families here with nonHispanic women would not be counted if we eliminated Hispanic fathers. If the mother was not married, listing the father on the birth certificate requires the consent under oath of both the mother and the father. If the mother was married, her husband's name must be listed as the father. While there might be some for whom data on the father is not accurate, the intent was to use all available information to examine growth.

Table 1a. Births occurring in North Carolina by Hispanic ethnicity of parent, 1988.

	Births in NC, ^a 1988 n, ^b (%) ^c
Hispanic mother	1,139 (1.2)
Hispanic father	1,389 (1.4)
Total births in NC	97,867 (100)

Data source: Buescher (1991).

^a This table includes data on all births that occurred in NC, regardless of the residence of the parents.

^b Number of births.

^c Percent of total births.

Table 1b. North Carolina births to Hispanic parents, 1988.

	Births to NC residents, ^a 1988 n, ^b (%) ^c
Hispanic mother and/or father	1,889 (1.9)
Total births in NC	97,560 (100)

Data source: State Center for Health & Environmental Statistics (1995).

^a This table includes only those births to parents who resided in NC.

^b Number of births.

^c Percent of total births.

In 1989, the data were similar to those in 1988 (Buescher, 1991). Births to Hispanic mothers were 1.5% of total births, while births to Hispanic fathers were 1.7% of the total (102,752). Using both the mother and father, 2.3% of total births were Hispanic. That represented 2,349 births out of 102,091.

Changes in Hispanic births were calculated for selected counties from 1990 to 1994.

Percentage change was calculated as follows: $[(1994 \text{ births} - 1990 \text{ births}) / 1990 \text{ births}] \times 100$. Rather than examine all 100 counties, some of which had very few Hispanics/Latinos, data were examined for the NC counties with at least 20 births in both 1990 and 1994. These counties also had at least 600 Hispanics/Latinos, according to the older estimates (Lopez, 1994), and many had several thousand. Therefore, this work includes counties that would be considered middle density and high density for Hispanics (Lopez, 1994). Even with high numbers of Hispanics, many had too few births to examine changes.

Students

Data were available since 1973-74 on the race and Hispanic ethnicity of students in NC public schools, K-12 (Department of Public Instruction, 1995). Most of the comparisons here will be between the 1990-91 school year and the most recent school year (1994-95). This will indicate changes since the last census. While the census may have begun during the 1989-90 school year, using 1990-91 represents a more conservative approach. This could result in slightly underestimating the changes. However, the actual data are provided.

County level data were examined for the school years 1990-91 and 1994-95. Percentage change was calculated as follows: $[(1994-95 \text{ students} - 1990-91 \text{ students}) / 1990 \text{ students}] \times 100$. The counties included were only those with 50 or more Hispanic students in both years. These counties also had more than 600 Hispanics/Latinos, and many had several thousand.

Migrant farm workers

Estimates of migrant and seasonal farm workers are provided annually by the NC Employment Security Commission (ESC). The ESC numbers are given in Appendix B for 1990 and 1994 (ESC, 1990 & 1994). Since there is no actual count or recording of each farm worker, these should only be considered rough estimates. The ESC also gives a category for those migrant farm workers (MFW) identified as "Spanish".

The estimates of "Spanish" migrant farm workers were examined for 1990 and 1994. Percentage changes were calculated by county as follows: $[(1994 \text{ "Spanish" MFW} - 1990 \text{ "Spanish" MFW}) / 1990 \text{ "Spanish" MFW}] \times 100$. This was done for counties with large numbers of Hispanics/Latinos, according to earlier estimates (Lopez, 1994). In addition, a factor of 2.5 times the estimate of migrant farm workers was used to account for dependents. This is consistent with the practice of the NC Migrant Health Program of DEHNR.

Community diagnoses

NC Community Diagnosis (CDx) is a local assessment of county problems and priorities (Blue, 1994). It is done by the local health departments. The process includes data analyses, community input, setting priorities, and planning. All of the 1994 reports were reviewed and tabulated by the SCHES (Blue, 1994) for legislative priorities, major concerns, and other specific information.

For this report, data were examined for the 49 counties with more than 600 Hispanics/Latinos (Lopez, 1994). In that earlier work, high density counties were those with 1200 or more Hispanics/Latinos. Middle density counties had 400-1199, and lower density counties had 0-399. By using a cutoff of 600, this work included the high density and many of the middle density counties. This was to try capture those with low official counts that might have had significant recent growth. The original Community Diagnosis reports were reviewed for

comments and data on the growth of the Hispanic/Latino population, and special needs to serve them.

RESULTS AND DISCUSSION

In this section, the data are provided by category – births, students, farm workers, and community diagnoses. A summary table is given at the beginning of the next section.

Births

North Carolina births can be found in Table 2 for 1988 through 1994. This table also includes the births as a percentage of total births. For this report, Hispanic births were those who had either a Hispanic mother or father. In the most recent year (1994), there were 4,163 Hispanic births, which were 4.1% of total births. As can be seen in Figure 1, there were large increases in Hispanic births during this period. They are especially notable for 1988-89 and 1991-92. State level changes in Hispanic births ranged from 2.1% to 24.8%, and averaged 14.4% during this time. In contrast, changes in nonHispanic births were relatively small. They ranged from -2.8% to 4.3%, with an average of 0.3%. While the growth of the Hispanic community was large, the actual number of Hispanic births was still small compared to nonHispanics. This is illustrated in Figure 2.

Table 2. North Carolina births by Hispanic ethnicity, 1988-1994.

	1988	1989	1990	1991	1992	1993	1994
Hispanic	1,889 ^a 1.9 ^b	2,349 2.3	2,620 2.5	2,674 2.6	3,338 3.2	3,540 3.5	4,163 4.1
NonHispanic	95,671 98.1	99,742 97.7	101,819 97.5	99,635 97.4	100,587 96.8	97,793 96.5	97,233 95.9
Total	97,560 100.0	102,091 100.0	104,439 100.0	102,309 100.0	103,925 100.0	101,333 100.0	101,395 100.0

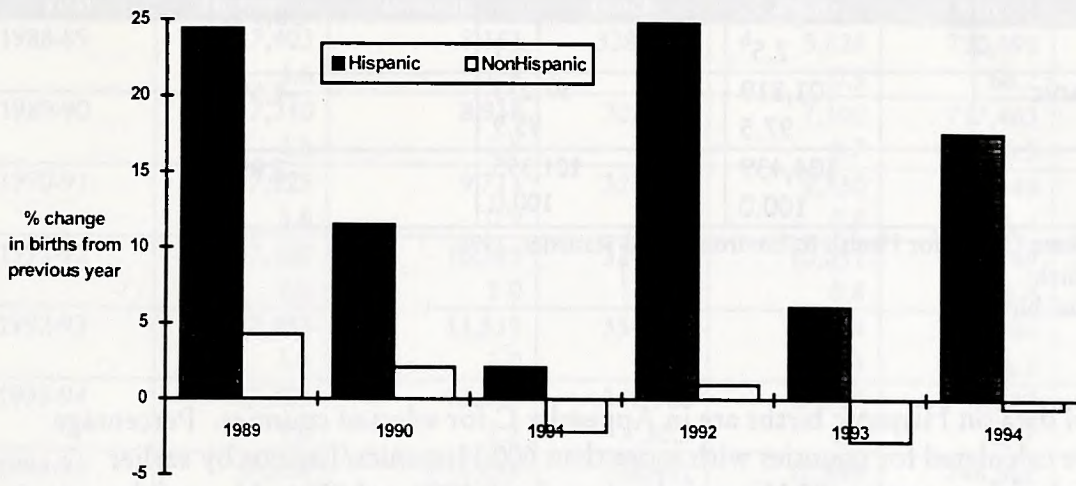
Data source: State Center for Health & Environmental Statistics, 1995.

^a Number of births.

^b Percentage of total births.

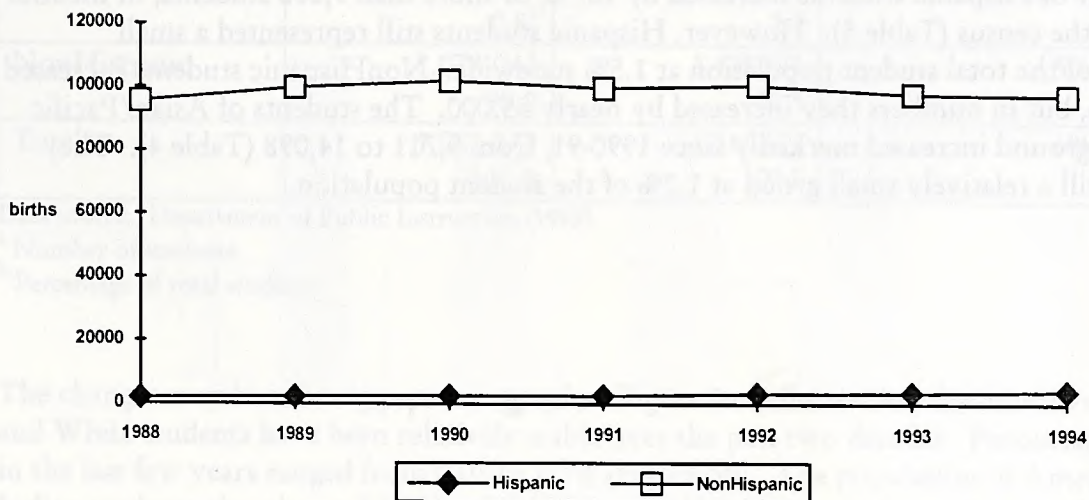
Statewide births for the years 1990 and 1994 are given by Hispanic ethnicity in Table 3. This illustrates the overall change in births from the census to the most recent year. While nonHispanic births decreased by 4.5%, Hispanic births increased by nearly 59%. According to the census, Hispanics in NC increased by 35% from 1980 to 1990, compared to 12.4% growth for nonHispanic Whites and 10.4% for nonHispanic Blacks (Surles, 1993b). Nationally, the Hispanic/Latino population is expected to increase by 27% between 1990 and 2000 (Schick & Schick, 1991). Here we are only looking at births, which probably reflect some in-migration. It is also only for the first four years of the decade. This supports the comments from local health providers, and their concerns for the service needs of this population. Prenatal clinics are reportedly the services most heavily used by this group, mainly because this is a young population.

Figure 1. Change in NC births, 1988-94, by Hispanic ethnicity.



Data Source: State Center for Health & Environmental Statistics, 1995.

Figure 2. NC births by Hispanic ethnicity, 1988-1994.



Data Source: State Center for Health & Environmental Statistics, 1995.

Table 3. North Carolina births by Hispanic ethnicity, 1990 and 1994.

	Births, 1990	Births, 1994	change, 1990-94
Hispanic	2,620 ^a 2.5 ^b	4,163 4.1	58.9%
NonHispanic	101,819 97.5	97,233 95.9	-4.5%
Total	104,439 100.0	101,395 100.0	-2.9%

Data source: State Center for Health & Environmental Statistics, 1995.

^a Number of births.

^b Percent of total births.

County level data on Hispanic births are in Appendix C for selected counties. Percentage changes were calculated for counties with more than 600 Hispanics/Latinos by earlier estimates, and with more than 20 Hispanic births in both 1990 and 1994. Most of the counties listed had large increases. Nine had increases in Hispanic births of more than 100%. Eleven had increases from 50-99%, and 12 had increases from 0 to 49%. Again, births only represent part of the picture, but they do provide some evidence of the changes.

Students

Data on the student population in NC public schools (K-12) were examined statewide and for selected counties. Table 4 provides an overview of the students by race and Hispanic ethnicity since 1988. This year was chosen to be consistent with the data available on Hispanic births. The number of Hispanic students increased by 107%, or more than 9,000 students, in the four years since the census (Table 5). However, Hispanic students still represented a small percentage of the total student population at 1.5% statewide. NonHispanic students increased by only 5%, but in numbers they increased by nearly 55,000. The students of Asian/Pacific Island background increased markedly since 1990-91, from 9,711 to 14,098 (Table 4). They were also still a relatively small group at 1.2% of the student population.

Table 4. History of NC public school students (K-12) by race and Hispanic ethnicity.

School year	American Indian	Asian/Pacific Islander	Black	Hispanic/Latino	White	Total
1988-89	17,403 1.6	8,161 0.8	328,395 ^a 30.4 ^b	5,828 0.5	720,698 66.7	1,080,485 100.0
1989-90	17,240 1.6	8,938 0.8	327,420 30.4	7,100 0.7	717,463 66.5	1,078,161 100.0
1990-91	17,225 1.6	9,711 0.9	327,658 30.3	8,530 0.8	719,448 66.4	1,082,572 100.0
1991-92	17,100 1.6	10,395 1.0	329,802 30.2	10,031 0.8	725,149 66.4	1,092,477 100.0
1992-93	17,233 1.6	11,519 1.0	334,765 30.2	12,124 1.1	731,204 66.1	1,106,845 100.0
1993-94	17,522 1.6	12,641 1.1	340,566 30.3	14,507 1.3	738,332 65.7	1,123,568 100.0
1994-95	17,554 1.5	14,098 1.2	348,461 30.4	17,699 1.5	748,862 65.3	1,146,674 100.0

Data source: Department of Public Instruction (1995).

^a Number of students.^b Percentage of total students.

Table 5. North Carolina public school students by Hispanic ethnicity, 1990-91 and 1994-95.

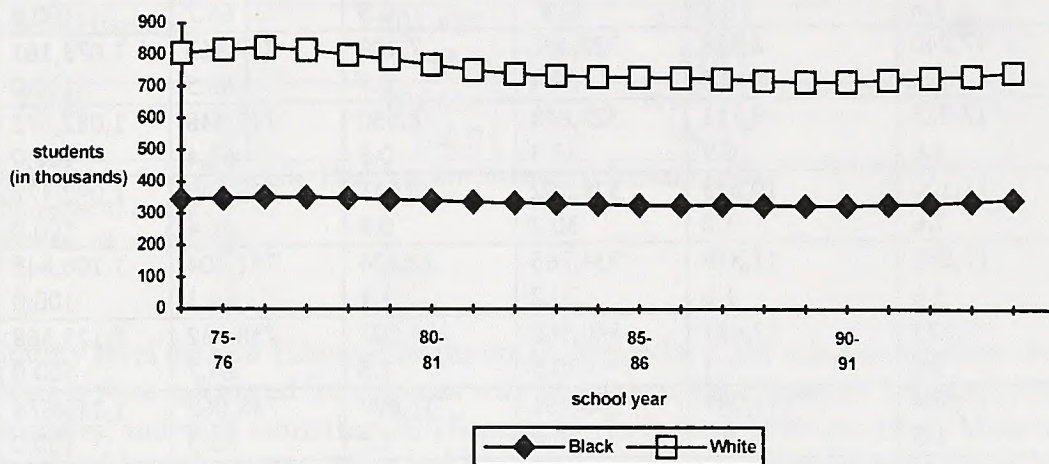
	Students, 1990-91	Students, 1994-95	change, 1990-91 to 1994-95
Hispanic	8,530 ^a 0.8 ^b	17,699 1.5	107%
NonHispanic	1,074,042 99.2	1,128,975 98.5	5%
Total	1,082,572 100.0	1,146,674 100.0	6%

Data source: Department of Public Instruction (1995).

^a Number of students.^b Percentage of total students.

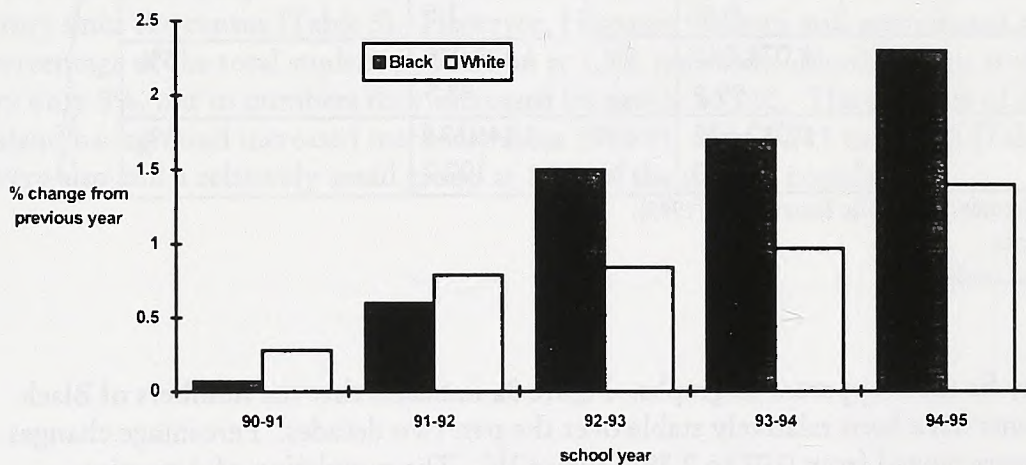
The changes may be more apparent in graphs. Figure 3a indicates that the numbers of Black and White students have been relatively stable over the past two decades. Percentage changes in the last few years ranged from 0.07 to 2.3% (Figure 3b). The population of American Indian students also changed little, while the Hispanic/Latino and Asian/Pacific Islander populations grew substantially (Figure 4a). Recent percentage changes in the two latter groups are illustrated in Figure 4b. Changes in the Asian student population ranged from 7% to 12%, while changes in the numbers of Latino students ranged from 18% to 22%.

Figure 3a. Black and White students in NC public schools, 1974-75 to 1994-95.



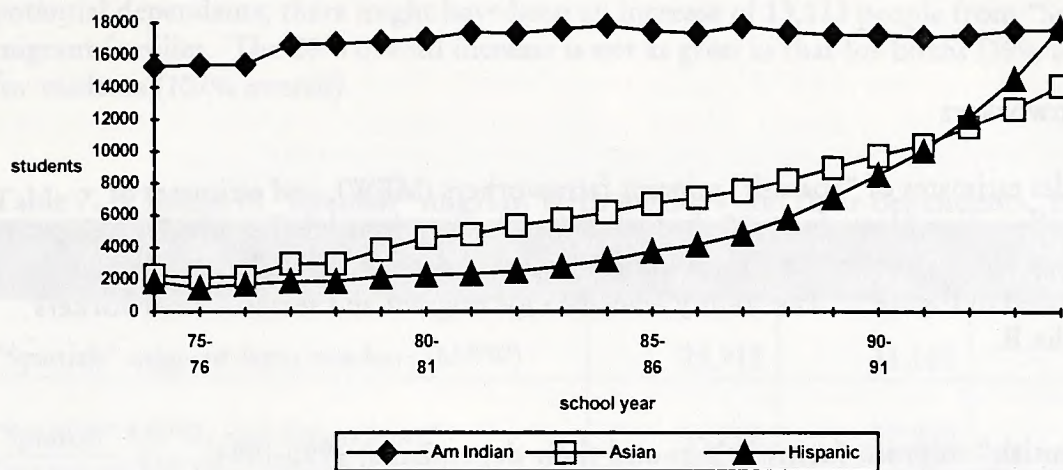
Data source: Department of Public Instruction, 1995.

Figure 3b. Change in NC Black and White students, 1990-91 to 1994-95.



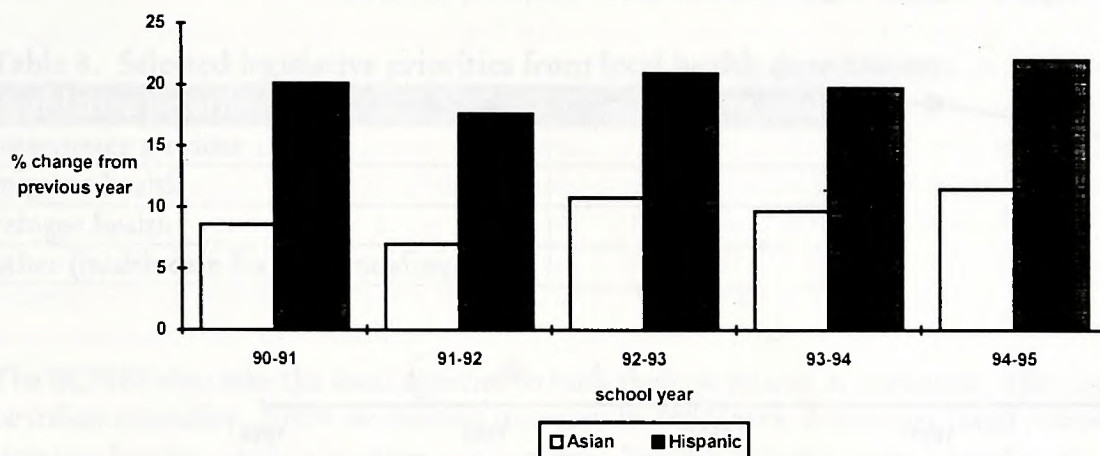
Data source: Department of Public Instruction, 1995.

Figure 4a. History of NC students by selected race and ethnicity, 1974-75 to 1994-95.



Data source: Department of Public Instruction, 1995.

Figure 4b. Change in NC student populations of Asians and Hispanics, 1990-91 to 1994-95.



Data source: Department of Public Instruction, 1995.

Appendix D provides data for the counties that had more than 50 Latino students in both 1990-91 and 1994-95. Of the counties included, nearly all had increases of over 50%, with 16 of those having had increases greater than 150%. This occurred during the four years since the census.

Migrant farmworkers

Table 6 includes estimates of "Spanish" migrant farmworkers (MFW), and estimates of workers with their dependents for 1990 through 1994. As mentioned earlier, the NC Migrant Health Program uses a factor of 2.5 to account for potential dependents. The data for the MFW are graphed in Figure 5. The county level data for migrant and seasonal farmworkers are in Appendix B.

Table 6. "Spanish" migrant farmworkers and their dependents, 1990-1994.

	1990	1991	1992	1993	1994
"Spanish" migrant farmworkers (MFW)	25,915	30,110	31,029	29,650	31,160
"Spanish" MFWs and dependents*	64,788	75,275	77,573	74,125	77,900

Data source: NC Employment Security Commission, 1991-1995.

*A factor of 2.5 was used to estimate dependents (see text). $MFW \times 2.5 = \text{workers} + \text{dependents}$.

Figure 5. "Spanish" migrant farmworkers in North Carolina, 1990-1994.



Data source: NC Employment Security Commission, 1991-1995.

Table 7 shows the increase in "Spanish" migrant farm workers from 1990 to 1994, and the potential increase in "Spanish" MFW and their dependents. The number of "Spanish" migrant farm workers increased by 20%, or 5,245 workers across the state from 1990 to 1994. With potential dependents, there might have been an increase of 13,113 people from "Spanish" migrant families. The 20% overall increase is not as great as that for births (59% overall) or for students (107% overall).

Table 7. Change in "Spanish" migrant farm workers and their dependents, 1990 to 1994.

	1990	1994	change, 1990 to 1994
"Spanish" migrant farm workers (MFW)	25,915	31,160	20%
"Spanish" MFWs and dependents*	64,788	77,900	20%

Data source: NC Employment Security Commission, 1991 and 1994.

*A factor of 2.5 was used to estimate dependents (see text). $MFW \times 2.5 = \text{workers} + \text{dependents}$.

Community diagnoses

In the Community Diagnosis process, counties are given 100 points to hypothetically allocate to legislative priorities. This gives state health programs an idea of the concerns and priorities of the local agencies. Areas include specific health services and more general staffing issues. In 1994, a number of counties allocated points to needs specific to the Hispanic population (Table 8). These included three that addressed interpreter services, 13 that mentioned migrant health, and one that referred to health care for alien residents.

Table 8. Selected legislative priorities from local health departments.

Legislative priority	number of counties
interpreter services	3
migrant health	13
refugee health	1
other (health care for resident aliens)	1

The SCHES also asks the local agencies to rank their problems or concerns. The issues might be infant mortality, AIDS, or chronic diseases. In 1994, several counties listed culture and language barriers as their number one concern. Table 9 includes issues related to the Hispanic/Latino population. The most pertinent issues they identified included a large influx of non-English speaking people, the need for services appropriate for Hispanics, and language and cultural barriers. Disparities in health status would also apply to other minority groups. Language barriers would apply to others as well; some counties are challenged by the many

languages spoken by Southeast Asian and other refugee groups. The identification of these concerns by local agencies indicates that even small numbers of people affect health services. This is especially evident when the growth is rapid and the needs are new, as they are for language.

Table 9. Greatest health problems of local health departments.

Cultural and linguistic issues	#1 problem^a	problem^b
racial disparities in health status	2	1
large influx on non-English speaking people	1	1
culturally appropriate services for Hispanics		2
language and cultural barriers		1

^a Number of counties that listed the item as their #1 problem.

^b Number of counties that listed the item as a problem.

A number of the counties mentioned needs for this population in their text or summary reports. Issues included the growth in this population, the special health needs of migrant farm workers, and the need for Spanish educational materials and interpreters. Most of these comments were general in nature. That might be attributed to the limited data on this population's health care needs. Most of the available data are grouped as White and NonWhite.

Since some health departments did not submit complete Community Diagnoses documents, much information may not have been captured. Many health departments submitted their priority lists for legislation and services. Some submitted summaries of their Community Diagnosis.

Language barrier and public health.

Interpreter services are a major concern for the Hispanic/Latino population. Language is a more important predictor of health care use than ethnic identification. Of those over 5 years of age who speak Spanish in North Carolina, 10-15% do not speak English well or at all, according to the 1990 census data. Assuming those percentages can be drawn from current estimates of Hispanics/Latinos, this represents anywhere from 10,600 to 22,600 people from the census and migrant estimates who do not speak English. However, the percentage of non-English speakers is generally considered to be much higher within the migrant population. In addition, given the growth rate of this population, the number of non-English speakers is likely to be much greater now.

The Office of Minority Health (OMH) continues to work to improve access to public health services for those who speak limited English. In 1993-94, the OMH developed recommendations for interpreter services with a committee of health and human service

professionals (Lopez, 1994). Their report included recommendations for qualifications, training, and staffing.

In May 1995, the first NC Training for Health Care Interpreters was provided, and the second is scheduled for October 1995. This was a joint project of the NC Primary Care Association, the OMH, the Division of Adult Health Promotion of DEHNR, and Citizen Services of the Department of Human Resources.

Cultural diversity

Cultural differences between providers and clients can be a significant barrier to health services. Training in cultural diversity is a major initiative of the Office of Minority Health. With a consultant, the OMH developed a Participants' Guide for cultural diversity training that is specific to public health (Toms, Lopez, & Pullen-Smith, 1995). It addresses cultural competency and change at both the individual and system levels. The Participants' Guide was used for pilot training in May 1995, and is being revised for Fall of 1995. The Office is currently developing a plan to provide this training to central and regional staff and to local health departments.

In June 1995, the OMH held a statewide conference on cultural diversity, which reached 300 public health providers across the state. It included sessions to increase awareness of cultural diversity and other sessions to increase knowledge of particular cultures.

SUMMARY

Table 10 includes the county-level changes in the Hispanic/Latino population since 1990 for births, students, and migrant farm workers. While there had been a 20% overall increase in "Spanish" migrant farm workers, there were greater increases in Hispanic births (59%) and students (107%). It is unknown whether the births were to resident or migrant women. However, it was notable that the increase in Hispanic births occurred over a four-year period. Nationally, Hispanics/Latinos were expected to increase 27% between 1990 and 2000. North Carolina's increase in Hispanic/Latino births had already exceeded that estimate.

The student data showed the most dramatic increases for the number of Hispanic/Latino students had more than doubled. It is likely that many of these children were residents, rather than migrants since the "Spanish" migrant population only increased 20% during this time. There is no certainty, however. Many may have been children of former migrants who settled out of the migrant stream. Once again, these increases were even more notable since they occurred in only four years.

While this report does not provide any definite numbers for the Hispanic/Latino population, it does present a picture of the changes over the last few years. This information should be useful to health and human service agencies in planning services that are based in the culture and language of this population.

Table 10. Summary of changes^a in the NC population of Hispanics/Latinos, for selected counties^b (1990-1994).

County	change in "Spanish" MFW %, (n)	change in Hispanic births ^c %, (n)	change in Latino students %, (n)
Alamance	88 (115)	159 (35)	183 (196)
Brunswick	-10 (-50)	— (19)	58 (31)
Buncombe	0 0	28 (11)	135 (152)
Catawba	0 0	50 (15)	141 (171)
Chatham	100 (50)	142 (34)	259 (204)
Craven	122 (110)	4 (4)	60 (95)
Cumberland	75 (75)	20 (92)	67 (886)
Davidson	-25 (-50)	— (26)	167 (95)
Duplin	167 (1500)	137 (70)	151 (297)
Durham	30 (30)	143 (67)	222 (289)
Forsyth	-45 (-225)	125 (84)	204 (419)
Gaston	0 0	— (21)	162 (85)
Greene	38 (150)	— (-3)	90 (47)
Guilford	17 (50)	49 (38)	115 (306)
Harnett	33 (200)	75 (35)	115 (202)
Henderson	0 0	8 (4)	80 (167)
Iredell	0 0	46 (13)	89 (79)
Johnston	-38 (-750)	38 (29)	90 (242)
Lee	40 (100)	134 (43)	206 (251)
Lenoir	0 0	52 (11)	73 (88)
Lincoln	250 (250)	0 (0)	66 (73)

County	change in "Spanish" MFW %, (n)	change in Hispanic births ^c %, (n)	change in Latino students %, (n)
Mecklenburg	0 0	53 (83)	83 (616)
Montgomery	100 (50)	39 (16)	110 (129)
Moore	50 (150)	77 (17)	188 (109)
Nash	-13 (-300)	-23 (-16)	56 (147)
New Hanover	43 (30)	29 (7)	56 (37)
Onslow	-17 (-50)	6 (17)	54 (247)
Orange	52 (80)	50 (15)	56 (77)
Pitt	16 (275)	77 (33)	146 (95)
Randolph	0 0	200 (48)	301 (253)
Rockingham	100 (200)	91 (20)	93 (98)
Rowan	0 0	— (18)	97 (92)
Sampson	31 (750)	123 (58)	66 (198)
Stokes	-30 (-150)	— (-4)	28 (18)
Surry	-10 (-50)	148 (34)	155 (152)
Union	0 0	— (26)	180 (101)
Wake	-11 (-75)	79 (120)	132 (685)
Wayne	13 (100)	65 (33)	98 (184)
Wilson	5 (50)	56 (19)	95 (148)
Yadkin	-15 (-75)	24 (6)	107 (127)
State Total	20 (5245)	59 (1543)	107 (9169)

^a Percentage change = [(1994 figure - 1990 figure) / 1990 figure] x 100.

^b Counties included had a large number of Hispanics/Latinos according to earlier estimates, and/or more than 20 Hispanic births in both years, and/or more than 50 Hispanic students in both years.

^c Percentage change in births was not calculated if there were fewer than 20 births in either 1990 or 1994. This is indicated by — in the column for birth data.

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APPENDICES

- A. 1990 Census. Hispanic and total population by county, North Carolina.
- B. Estimates of migrant and seasonal farm workers during peak harvest by county (1990 and 1994).
- C. NC Hispanic births (and percentage of total births) for selected counties, 1990 and 1994.
- D. NC Hispanic/Latino students (and percentage change) in selected counties, 1990-91 and 1994-95 school years.

1990 CENSUS
HISPANIC AND TOTAL POPULATION BY COUNTY
NORTH CAROLINA

COUNTY NAME	HISPANIC POPULATION	TOTAL POPULATION
ALAMANCE	736	108,213
ALEXANDER	184	27,544
ALLEGHANY	85	9,590
ANSON	67	23,474
ASHE	102	22,209
AVERY	118	14,867
BEAUFORT	197	42,283
BERTIE	32	20,388
BLADEN	150	28,663
BRUNSWICK	376	50,985
BUNCOMBE	1,173	174,821
BURKE	344	75,744
CABARRUS	483	98,935
CALDWELL	315	70,709
CAMDEN	24	5,904
CARTERET	450	52,556
CASWELL	136	20,693
CATAWBA	921	118,412
CHATHAM	564	38,759
CHEROKEE	131	20,170
CHOWAN	95	13,506
CLAY	40	7,155
CLEVELAND	376	84,714
COLUMBUS	242	49,587
CRAVEN	1,821	81,613
CUMBERLAND	13,298	274,566
CURRITUCK	110	13,736
DARE	199	22,746
DAVIDSON	602	126,677
DAVIE	129	27,859
DUPLIN	1,015	39,995
DURHAM	2,054	181,835
EDGECOMBE	255	56,558
FORSYTH	2,102	265,878
FRANKLIN	290	36,414
GASTON	864	175,093
GATES	21	9,305
GRAHAM	29	7,196
GRANVILLE	356	38,345
GREENE	169	15,384
GUILFORD	2,887	347,420
HALIFAX	237	55,516
HARNETT	1,159	67,822
HAYWOOD	240	46,942
HENDERSON	846	69,285
HERTFORD	81	22,523
HOKE	218	22,856
HYDE	43	5,411
IREDELL	672	92,931
JACKSON	155	26,846
JOHNSTON	1,262	81,306
JONES	53	9,414

1990 CENSUS

HISPANIC AND TOTAL POPULATION BY COUNTY
NORTH CAROLINA

COUNTY NAME	HISPANIC POPULATION	TOTAL POPULATION
LEE	800	41,374
LENOIR	463	57,274
LINCOLN	570	50,319
MACON	165	23,499
MADISON	86	16,953
MARTIN	99	25,078
MCDOWELL	114	35,681
MECKLENBURG	6,693	511,433
MITCHELL	50	14,433
MONTGOMERY	556	23,346
MOORE	470	59,013
NASH	606	76,677
NEW HANOVER	924	120,284
NORTHAMPTON	116	20,798
ONSLOW	8,035	149,838
ORANGE	1,279	93,851
PAMLICO	61	11,372
PASQUOTANK	246	31,298
PENDER	273	28,855
PERQUIMANS	28	10,447
PERSON	249	30,180
PITT	977	107,924
POLK	115	14,416
RANDOLPH	734	106,546
RICHMOND	293	44,518
ROBESON	704	105,179
ROCKINGHAM	620	86,064
ROWAN	651	110,605
RUTHERFORD	342	56,918
SAMPSON	727	47,297
SCOTLAND	318	33,754
STANLY	309	51,765
STOKES	254	37,223
SURRY	602	61,704
SWAIN	78	11,268
TRANSYLVANIA	154	25,520
TYRRELL	11	3,856
UNION	675	84,211
VANCE	271	38,892
WAKE	5,396	423,380
WARREN	98	17,265
WASHINGTON	65	13,997
WATAUGA	249	36,952
WAYNE	1,356	104,666
WILKES	362	59,393
WILSON	537	66,061
YADKIN	388	30,488
YANCEY	49	15,419

1990 ESTIMATE OF MIGRANT AND SEASONAL FARMWORKERS DURING PEAK HARVEST BY COUNTY

County	Migrant	SFW	Over	Spanish	H2A	County	Migrant	SFW	Over	Spanish	H2A
			150 Days						150 Days		
Alamance	140	600	300	130	2	McDowell	40	440	60	40	0
Alexander	75	1200	100	75	0	Macon	40	500	80	40	0
Alleghany	150	400	75	150	0	Madison	40	400	50	40	0
Anson	20	200	200	20	0	Martin	300	700	375	290	0
Ashe	50	1000	20	50	0	Mecklenburg	0	100	100	0	0
Avery	250	400	10	250	0	Mitchell	20	400	50	20	0
Beaufort	300	700	320	300	0	Montgomery	50	300	150	50	0
Bertie	75	800	500	50	0	Moore	300	500	300	300	66
Bladen	200	2100	800	200	0	Nash	2700	1500	500	2250	20
Buncombe	50	600	100	50	22	New Hanover	70	275	125	70	0
Brunswick	500	1600	600	500	0	North Hampton	40	600	200	40	0
Burke	40	1500	20	40	0	Onslow	300	400	125	300	14
Cabarrus	20	650	100	20	0	Orange	160	300	220	155	0
Caldwell	25	200	100	25	0	Pamlico	40	350	125	40	0
Camden	103	190	235	0	0	Pasquotank	150	815	505	5	0
Carteret	100	400	200	60	0	Pender	425	1800	1000	425	0
Caswell	265	900	180	260	0	Perquimans	0	250	150	0	0
Cawtaba	15	500	20	10	0	Person	310	850	150	300	0
Chatam	50	350	200	50	0	Pitt	1800	2000	1200	1700	0
Cherokee	40	600	75	40	0	Polk	50	300	80	50	0
Chowan	105	500	200	30	0	Randolph	50	300	300	50	0
Clay	0	300	100	0	0	Richmond	300	400	275	300	54
Cleveland	150	800	100	150	0	Robeson	350	2200	1200	350	0
Columbus	300	1500	500	300	0	Rockingham	200	600	300	200	122
Craven	100	2100	200	90	33	Rowan	100	1170	200	100	0
Cumberland	150	1200	600	100	8	Rutherford	30	800	75	30	0
Currituck	27	320	300	0	0	Sampson	2800	1800	750	2400	31
Dare	0	0	0	0	0	Scotland	0	200	150	0	0
Davidson	200	1000	100	200	0	Stanly	0	100	200	0	0
Davie	25	300	100	25	0	Stokes	500	1400	150	500	13
Duplin	1000	3000	1000	900	190	Surry	500	1600	250	500	11
Durham	100	450	50	100	0	Swain	25	200	15	25	0
Edgecombe	300	1300	400	300	0	Transylvania	50	300	75	50	0
Forsythe	500	1100	100	500	37	Tyrrell	0	250	145	0	0
Franklin	300	2500	300	300	35	Union	0	100	400	0	0
Gaston	50	200	10	50	0	Vance	90	1250	150	90	0
Gates	25	300	150	10	0	Wake	675	750	175	675	0
Graham	0	250	50	0	0	Warren	50	1250	150	50	0
Granville	600	2500	300	600	0	Washington	150	350	250	100	0
Greene	400	600	500	400	82	Watauga	50	700	20	50	0
Guilford	300	700	350	300	0	Wayne	1000	2000	800	800	18
Halifax	50	2000	200	50	0	Wilkes	200	1500	400	150	0
Harnett	800	1900	750	600	32	Wilson	1200	400	300	1100	4
Haywood	60	800	150	60	0	Yadkin	500	1700	150	500	4
Henderson	1500	2000	500	1200	0	Yancey	10	300	10	10	0
Hertford	50	700	275	15	0						
Hoke	25	200	150	25	0						
Hyde	160	250	200	145	0						
Iredell	100	1300	375	100	0						
Jackson	50	550	75	50	0						
Johnston	2500	2000	800	1950	51						
Jones	100	600	125	90	0						
Lee	250	450	225	250	86						
Lenoir	500	900	700	500	51						
Lincoln	100	1000	75	100	0						

County	Migrant	Spanish	SFW	Over 150 Days	H2A	County	Migrant	Spanish	SFW	Over 150 Days	H2A
Alamance	250	245	650	250	12	McDowell	40	40	440	60	0
Alexander	75	75	1200	100	8	Macon	40	40	500	80	0
Alleghany	150	150	400	75	0	Madison	40	40	400	50	0
Anson	60	60	160	200	0	Martin	325	315	700	375	0
Ashe	150	150	1000	20	0	Mecklenburg	0	0	100	100	0
Avery	250	250	400	10	0	Mitchell	20	20	400	50	0
Beaufort	525	495	605	370	0	Montgomery	100	100	250	125	0
Berke	75	70	800	350	0	Moore	450	450	350	225	74
Bladen	600	600	1600	800	0	Nash	2000	1950	800	500	0
Buncombe	50	50	600	100	0	New Hanover	100	100	200	125	0
Brunswick	450	450	1100	350	0	Northampton	50	50	550	200	0
Burke	40	40	1500	20	0	Onslow	250	250	150	125	16
Cabarrus	20	20	650	100	0	Orange	240	235	305	220	0
Caldwell	25	25	200	100	0	Pamlico	125	125	400	150	6
Camden	90	5	140	250	0	Pasquotank	170	10	800	550	0
Carteret	150	125	400	200	0	Pender	750	750	1200	950	0
Caswell	290	280	800	200	40	Perquimans	0	0	250	150	0
Catawba	15	10	500	20	0	Person	400	380	1150	160	18
Chatham	100	100	275	180	13	Pitt	2000	1975	2000	1200	0
Cherokee	40	40	600	75	0	Polk	50	50	300	80	0
Chowan	120	40	500	225	0	Randolph	50	50	350	80	24
Clay	0	0	300	100	0	Richmond	425	425	200	325	116
Cleveland	150	150	800	100	0	Robeson	800	800	1700	1000	57
Columbus	600	600	750	475	0	Rockingham	420	400	1000	350	285
Craven	200	200	1800	300	82	Rowan	100	100	1170	200	73
Cumberland	200	175	550	475	41	Rutherford	30	30	800	75	0
Currituck	50	5	300	300	0	Sampson	3500	3150	1200	825	207
Dare	0	0	0	0	0	Scotland	25	25	220	150	0
Davidson	150	150	800	100	9	Stanly	0	0	100	200	0
Davie	50	50	300	100	7	Stokes	400	350	1300	200	98
Duplin	2500	2400	1500	1000	170	Surry	500	450	1400	250	32
Durham	130	130	350	50	22	Swain	25	25	200	15	0
Edgecombe	300	300	900	400	19	Transylvania	50	50	300	75	0
Forsythe	300	275	1000	200	98	Tyrrell	60	60	250	145	0
Franklin	440	440	2400	300	89	Union	0	0	100	350	0
Gaston	50	50	200	10	0	Vance	200	200	1200	150	6
Gates	10	10	300	150	0	Wake	600	600	200	450	134
Graham	0	0	250	50	0	Warren	70	70	1100	150	0
Granville	360	360	2400	300	49	Washington	200	125	350	250	0
Greene	550	550	525	400	341	Watauga	50	50	700	20	0
Guilford	375	350	700	350	76	Wayne	1000	900	1500	700	30
Halifax	150	150	1500	300	0	Wilkes	200	150	1500	400	0
Harnett	1000	800	1500	600	216	Wilson	1200	1150	350	300	35
Haywood	60	60	800	150	0	Yadkin	450	425	1400	175	90
Henderson	1500	1200	2000	500	0	Yancey	10	10	300	10	0
Hertford	50	10	700	300	0						
Hoke	30	30	200	150	0						
Hyde	275	260	225	210	0						
Iredell	100	100	1300	375	0						
Jackson	50	50	550	75	0						
Johnston	1500	1200	700	700	97						
Jones	175	150	700	150	36						
Lee	350	350	425	225	134						
Lenoir	500	500	750	650	110						
Lincoln	350	350	1000	75	0						

Appendix C. NC Hispanic/Latino (H/L) births (and percentage of total births)
for selected counties, 1990 and 1994.

County ^a	H/L births, ^b 1990 ^c	H/L births, 1994	% change ^d 1990-94
Alamance	22 (1.5)	57 (4.7)	159
Buncombe	40 (1.7)	51 (2.3)	28
Catawba	30 (1.7)	45 (2.7)	50
Chatham	24 (4.0)	58 (10.4)	142
Craven	90 (5.5)	94 (6.3)	4
Cumberland	471 (8.1)	563 (10.1)	20
Duplin	51 (8.1)	121 (18.4)	137
Durham	47 (1.5)	114 (3.8)	143
Forsyth	67 (1.6)	151 (3.9)	125
Guilford	78 (1.5)	116 (2.3)	49
Harnett	47 (4.0)	82 (6.5)	75
Henderson	48 (5.5)	52 (6.4)	8
Iredell	28 (2.0)	41 (2.9)	46
Johnston	76 (5.7)	105 (7.4)	38
Lee	32 (4.6)	75 (10.8)	134
Lenoir	21 (2.5)	32 (3.6)	52
Lincoln	20 (2.6)	20 (2.8)	0
Mecklenburg	156 (1.7)	239 (2.7)	53
Montgomery	41 (10.9)	57 (15.8)	39
Moore	22 (2.6)	39 (4.7)	77
Nash	69 (5.5)	53 (4.4)	-23

County ^a	H/L births, ^b 1990 ^d	H/L births, 1994	% change ^c 1990-94
New Hanover	24 (1.3)	31 (1.7)	29
Onslow	268 (7.8)	285 (9.1)	6
Orange	30 (2.7)	45 (3.9)	50
Pitt	43 (2.6)	76 (4.5)	77
Randolph	24 (1.5)	72 (4.6)	200
Rockingham	22 (1.8)	42 (3.5)	91
Sampson	47 (7.0)	105 (15.0)	123
Surry	23 (2.6)	57 (7.1)	148
Wake	152 (2.2)	272 (3.6)	79
Wayne	51 (3.0)	84 (5.2)	65
Wilson	34 (3.3)	53 (5.5)	56
Yadkin	25 (6.5)	31 (7.3)	24
NC Total	2620 (2.5)	4163 (4.1)	59

Data source: State Center for Health & Environmental Statistics (1995).

^a Counties included were those with at least 20 births in both 1990 and 1994.

^b Births are given in numbers and percentage (%) of total births in the county. Birth was classed Hispanic if either mother or father was reported to be Hispanic on the birth certificate.

^c Percentage change = [(1994 births - 1990 births) / 1990 births] x 100.



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Appendix D. NC Hispanic/Latino (H/L) students (and percentage change)
in selected counties,^a 1990-91 and 1994-95 school years.^b

County	H/L students, 1990-91	H/L students, 1994-95	% change, ^c 1990-95
Alamance	107	303	183
Brunswick	53	84	58
Buncombe	113	265	135
Catawba	121	292	141
Chatham	66	237	259
Craven	158	253	60
Cumberland	1,328	2,214	67
Davidson	57	152	167
Duplin	197	494	151
Durham	130	419	222
Forsyth	205	624	204
Gaston	54	139	162
Greene	52	99	90
Guilford	265	571	115
Harnett	175	377	115
Henderson	209	376	80
Iredell	89	168	89
Johnston	269	511	90
Lee	122	373	206
Lincoln	110	183	66
Mecklenburg	740	1,356	83
Montgomery	117	246	110
Moore	58	167	188
Nash	264	411	56
New Hanover	66	103	56
Onslow	457	704	54
Orange	137	214	56
Pitt	65	160	146
Randolph	84	337	301
Rockingham	105	203	93
Rowan	95	187	97
Sampson	299	497	66
Stokes	63	81	28
Surry	98	250	155
Union	56	157	180
Wake	517	1,202	132
Wayne	188	372	98
Wilson	156	304	95
Yadkin	119	246	107
NC Total	8,530	17,699	107

^a Counties included had 50 or more Hispanic/Latino students in both 1990-91 and 1994-95.

^b Student data were provided by the Department of Public Instruction (1995).

^c Percentage change = [(1994-95 students - 1990-91 students) / 1990-91 students] x 100.

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